

Production from memory

Psychology 248
Prof. Benjamin

Close your eyes.

- Imagine that you are a HOMEBUYER when you read the upcoming story.

- Imagine that you are a BURGLER as you read the upcoming story.

The two boys ran until they came to the driveway. "See, I told you today was good for skipping school," said Mark. "Mom is never home on Thursday," he added. Tall hedges hid the house from the road so the pair strolled across the finely landscaped yard. "I never knew your place was so big," said Pete. "Yeah, but it's nicer now than it used to be since Dad had the new stone siding put on and added the fireplace."

There were front and back doors and a side door which led to the garage which was empty except for three parked 10-speed bikes. They went in the side door, Mark explaining that it was always open in case his younger sisters got home earlier than their mother.

Pete wanted to see the house so Mark started with the living room. It, like the rest of the downstairs, was newly painted. Mark turned on the stereo, the noise of which worried Pete. "Don't worry, the nearest house is a quarter of a mile away," Mark shouted. Pete felt more comfortable observing that no houses could be seen in any direction beyond the huge yard. The dining room, with all the china, silver and cut glass, was no place to play so the boys moved into the kitchen where they made sandwiches. Mark said they wouldn't go to the basement because it had been damp and musty ever since the new plumbing had been installed.

"This is where my Dad keeps his famous paintings and his coin collection," Mark said as they peered into the den. Mark bragged that he could get spending money whenever he needed it since he'd discovered that his Dad kept a lot in the desk drawer.

There were three upstairs bedrooms. Mark showed Pete his mother's closet which was filled with furs and the locked box which held her jewels. His sisters' room was uninteresting except for the color TV which Mark carried to his room. Mark bragged that the bathroom in the hall was his since one had been added to his sisters' room for their use. The big highlight in his room, though, was a leak in the ceiling where the old roof had finally rotted.

Recall

- Now write down things that you remember from the story.
- (You will have 3 minutes.)

Shift perspective

- Now, if you had read the story from the perspective of a HOMEBUYER, try to recall additional details from the perspective of a BURGLER.
- If you had read the story from the perspective of a BURGLER, try to recall additional details from the perspective of a HOMEBUYER.

Perspective and recall

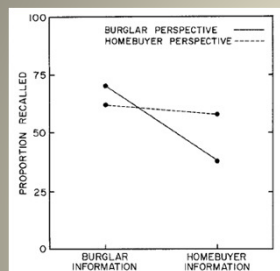


FIG. 1. Proportion of perspective-relevant and perspective-irrelevant information recalled on the first test.

Effect of perspective on first test

Anderson & Pichert (1978)

Effect of changing perspective (or not) across tests

TABLE 2
PROPORTIONS RECALLED OF IDEA UNITS WHOSE IMPORTANCE VARIED AS A FUNCTION OF PERSPECTIVE,
EXPERIMENT I

First/second perspective	Information cluster			
	Burglar		Homebuyer	
	First recall	Second recall	First recall	Second recall
Burglar/burglar	.68	.69	.39	.35
Homebuyer/homebuyer	.70	.68	.58	.58
Homebuyer/burglar	.54	.64	.58	.56
Burglar/homebuyer	.73	.61	.37	.42

Close your eyes again.

Learn these words.

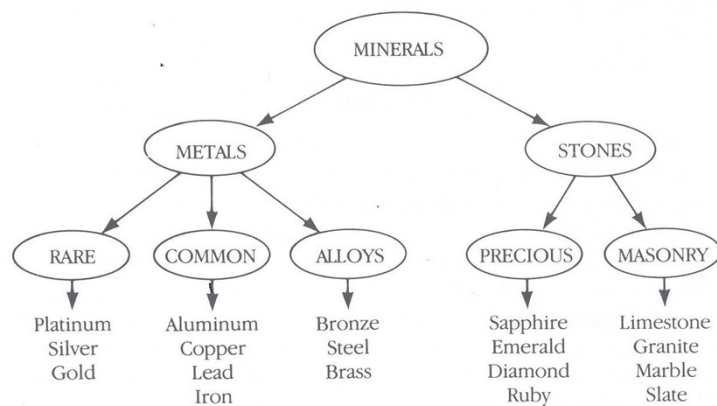


FIGURE 7.7: A hierarchical tree presented to subjects in the free-recall experiment of Bower et al. (From Bower et al., 1969.)

Learn these words.

- Platinum
- Alloys
- Limestone
- Aluminum
- Bronze
- Sapphire
- Rare
- Stones
- Copper
- Silver
- Steel
- Emerald
- Granite
- Masonry
- Ruby
- Precious
- Metals
- Marble
- Common
- Minerals
- Diamond
- Brass
- Lead
- Gold
- Iron

Memory test

- Write down as many of the previously studied words as you can remember.
- (3 minutes)

Retrieval plans and organization

TABLE 1
AVERAGE WORDS RECALLED OVER FOUR TRIALS

Condition	Trials			
	1	2	3	4
Whole:				
Words presented	112	112	112	112
Blocked	73.0	106.1	112	112
Random	20.6	38.9	52.8	70.1

Bower, Clark, Lesgold, & Winzenz (1969)

Semantic clustering in recall

Input:

Pliers

Chair

Computer

Wrench

Bottle

Hammer

Output:

Hammer

Pliers

Wrench

Computer

Chair

Bottle

} *response burst*

Items are grouped semantically in free recall output

Bousfield (1953)

Temporal clustering: the lag-recency effect

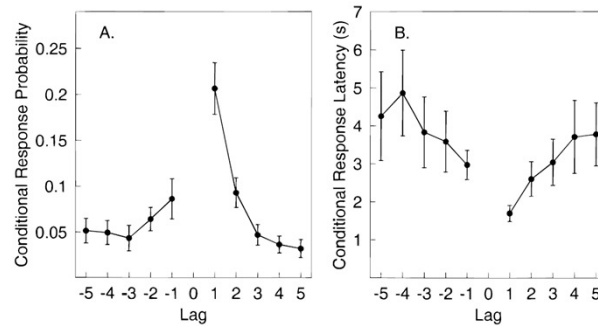


FIG. 1. The lag-recency effect. (A) The conditional response probability as a function of lag. (B) The conditional response latency as a function of lag. Both measures show an advantage for recalls to nearby serial positions and an asymmetry favoring forward recalls. Data is from Murdock and Okada (1970). Both measures were calculated excluding the first three output positions to eliminate the recency effect. Error bars are 95% confidence intervals calculated according to the method of Loftus and Masson (1994).

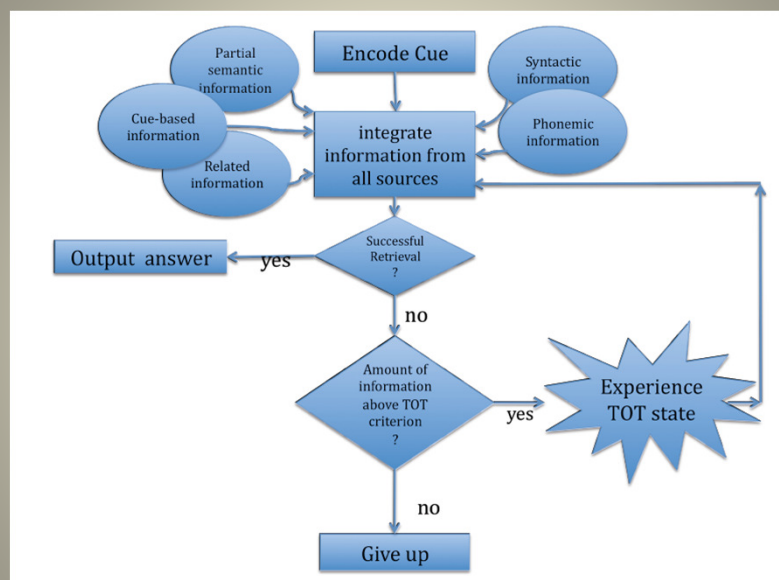
Howard & Kahana (2002)

Tip of the tongue experiences

- <http://www.youtube.com/watch?v=T36l8Coiz64>
- TOTs involve *partial retrieval* of what?
- TOTs predict *success* in retrieval

Tip-of-the-tongue experiences

- What is the last name of the boxer who later became known as Mohammed Ali?
- What is the only liquid metal at room temperature?
- What is the name of the poker hand in which all of the cards are of the same suit?



Feeling-of-knowing phenomenon

- Raise your hand if you can remember the 6 words on the study list early on in this lecture (the one in which there were some tools).
- If you can't remember all 6 words, what is the probability that you will RECOGNIZE them when I present them to you?

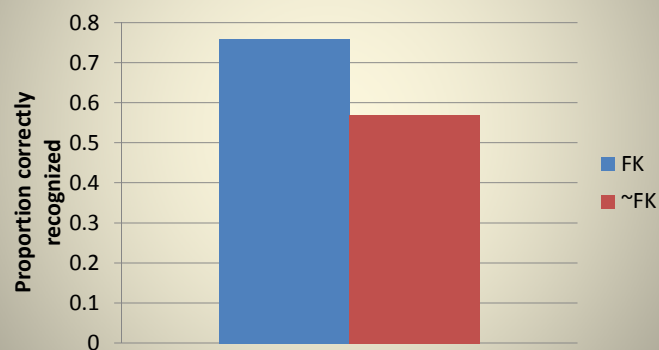
Feeling-of-knowing phenomenon

Pliers	Wrench
House	Tile
Phone	Coat
Chair	Bottle
Computer	Hammer
Monkey	Water

Feeling-of-knowing phenomenon

- What is the last name of the boxer who later became known as Mohammed Ali?
(a) Hall (b) Clay (c) James (d) Foreman
- What is the only liquid metal at room temperature?
(a) Mercury (b) Lead (c) Radon (d) Water
- What is the name of the poker hand in which all of the cards are of the same suit?
(a) Straight (b) Full house (c) Flush (d) Blackjack

Feeling-of-knowing phenomenon



Hart (1965)

A new list to remember

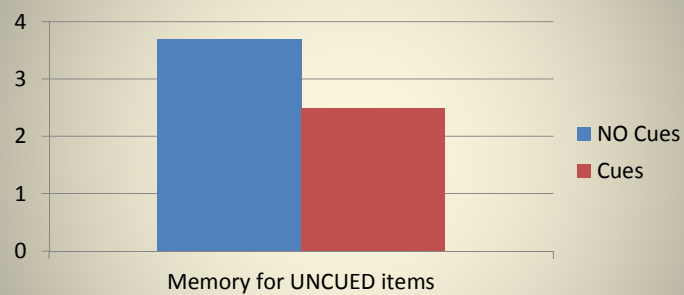
- Frog
- Magazine
- Truck
- Circle
- Robot
- Light
- Wheel
- Chalk
- Carpet
- Ice
- Bubble
- Bow

Remember!

Remember (with some help)

- Frog
- Bubble
- Chalk
- Wheel
- Robot
- Magazine

Part-list cuing



Part-list cuing from semantic memory

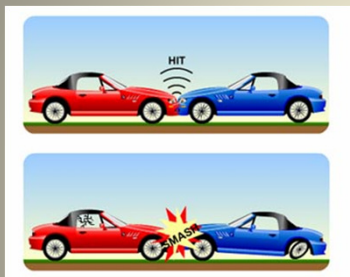
Remember all the presidents you can.

No Cues

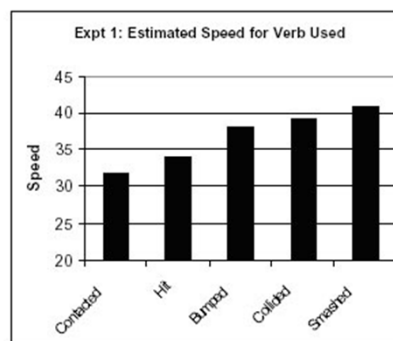
Or

Cues: *Harding, Wilson, Taft, Madison, Clinton*

Top-down influences on recall

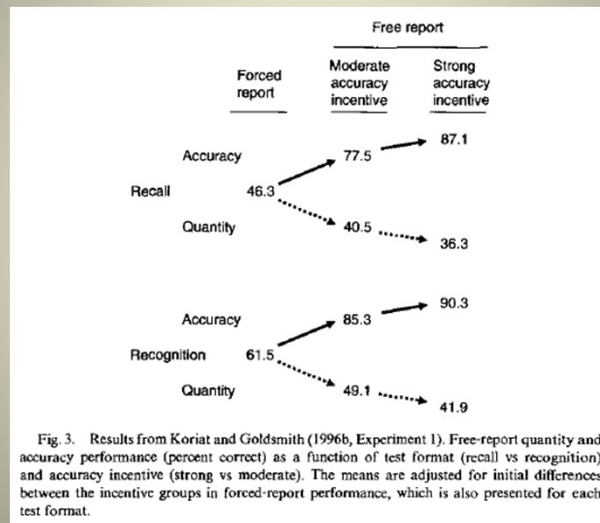


About how fast were the cars going when they _____ each other?



Loftus & Palmer (1974)

Accuracy/quantity trade-off



Measuring memory in free recall

Study: A B C D E F

Recall: A B C D G

Input-bound accuracy: $4/6 = .67$

Is it the *whole truth*?

Output-bound accuracy: $4/5 = .80$

Is what this person is saying *true*?

Control over *grain size* in reporting

- When did the Rolling Stones record their first album?
- A tradeoff between *accuracy* and *informativeness*

Next class:
Memory judgments